IN THE CLAIMS

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. When strikethrough cannot easily be perceived, or when five or fewer characters are deleted, [[double brackets]] are used to show the deletion. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered). Please maintain the claims in their present form:

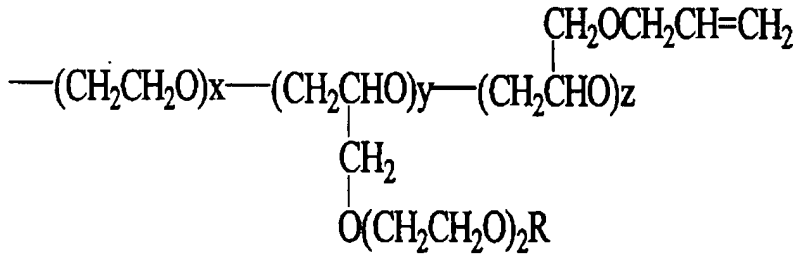
1. (original) A polymeric gel electrolyte prepared by polymerizing a polymer electrolyte precursor comprising:

a polymer represented by formula 1;

a crosslinking agent represented by formula 2; and

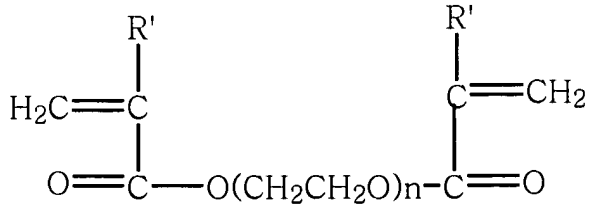
an electrolyte solution composed of a lithium salt and a non-aqueous organic solvent, wherein

formula 1 is as follows



,

formula 2 is as follows



, and

x ranges from 0.1 to 0.6 mol, y ranges from 0.1 to 0.8 mol, z ranges from 0.1 to 0.8 mol, R is an alkyl having 1 to 6 carbon atoms, n is an integer from 3 to 30, and R' is hydrogen or CH_3.

2. (original) The polymeric gel electrolyte according to claim 1, wherein said polymer has a weight-average molecular weight of 5,000 to 2,000,000, and has a content of 2 to 10 parts by weight based on 100 parts by weight of the polymer electrolyte precursor.

3. (original) The polymeric gel electrolyte according to claim 1, wherein said crosslinking agent represented by formula 2 has a weight-average molecular weight of 258 to 500,000, and a content thereof is 0.01 to 50 parts by weight based on 100 parts by weight of the polymer electrolyte precursor.

4. (original) The polymeric gel electrolyte according to claim 1, further comprising an additional crosslinking agent, said additional crosslinking agent having a content of 0.01 to 50 parts by weight of N,N-(1,4-phenylene)bismaleimide, based on 100 parts by weight of the polymer electrolyte precursor.

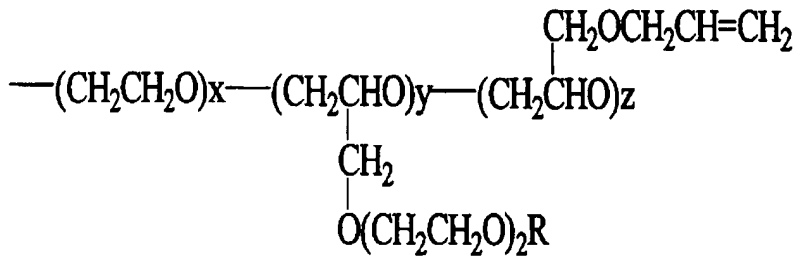
5. (original) The polymeric gel electrolyte according to claim 1, wherein the non-aqueous organic solvent is at least one selected from the group consisting of propylene carbonate, ethylene carbonate, dimethylcarbonate, methylethylcarbonate, diethylcarbonate and vinylene carbonate, and the lithium salt is at least one selected from the group consisting of $LiClO_4$, $LiBF_4$, $LiPF_6$, $LiCF_3SO_3$, and $LiN(CF_3SO_2)_2$.

6. (original) The polymeric gel electrolyte according to claim 1, wherein a content of said electrolyte solution is in the range of 40 to 98 parts by weight based on 100 parts by weight of the polymer electrolyte precursor.

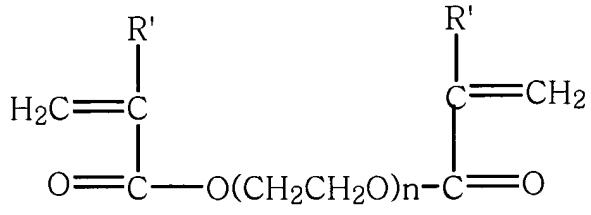
7. (original) A method of manufacturing a polymeric gel electrolyte comprising:

preparing a polymer electrolyte precursor by mixing a polymer represented by formula 1, a crosslinking agent represented by formula 2, and an electrolyte solution composed of a lithium salt and a non-aqueous organic solvent, wherein

formula 1 is as follows



formula 2 is as follows



, and

x ranges from 0.1 to 0.6 mol, y ranges from 0.1 to 0.8 mol, z ranges from 0.1 to 0.8 mol, R is an alkyl having 1 to 6 carbon atoms, n is an integer from 3 to 30, and R' is hydrogen or CH_3; and

polymerizing the prepared polymer electrolyte precursor.

8. (original) The method according to claim 7, wherein said preparing the polymer electrolyte precursor further includes adding as an additional crosslinking agent 0.01 to 50 parts by weight of N,N-(1,4-phenylene)bismaleimide, based on 100 parts by weight of the polymer electrolyte precursor.

9. (original) The method according to claim 7, wherein said polymerization of the prepared polymer electrolyte precursor is performed at 60 to 100°C.

10. (original) A lithium battery comprising:

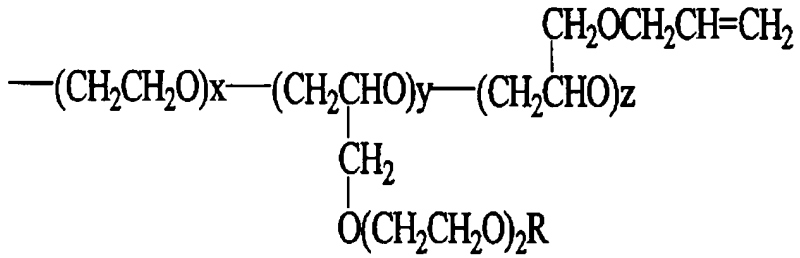
a cathode;

an anode; and

a separator interposed between said cathode and said anode, wherein said separator comprises an insulating resin sheet having a network structure in which a polymeric gel electrolyte is contained, the polymer gel electrolyte being prepared by polymerizing a polymer electrolyte precursor comprising a polymer represented by formula 1, a crosslinking agent represented by formula 2, and an electrolyte solution composed of a lithium salt and a non-aqueous organic solvent,

wherein

formula 1 is as follows



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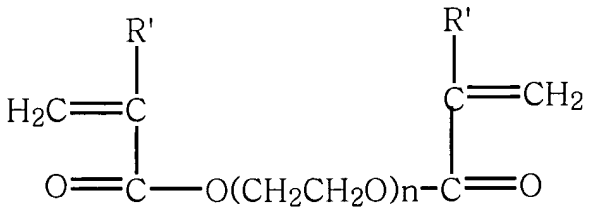
formula 2 is as follows



, and

x ranges from 0.1 to 0.6 mol, y ranges from 0.1 to 0.8 mol, z ranges from 0.1 to 0.8 mol, R is an alkyl having 1 to 6 carbon atoms, n is an integer from 3 to 30, and R' is hydrogen or CH_3.

11. (original) The lithium battery according to claim 10, wherein the polymer represented by formula 1 has a weight-average molecular weight of 5,000 to 2,000,000, and has a content of 2 to 10 parts by weight based on 100 parts by weight of the polymer electrolyte precursor.

12. (original) The lithium battery according to claim 10, wherein the crosslinking agent represented by formula 2 has a weight-average molecular weight of 258 to 500,000, and has a content of 0.01 to 50 parts by weight based on 100 parts by weight of the polymer electrolyte precursor.

13. (original) The lithium battery according to claim 10, wherein the polymer electrolyte precursor further includes as an additional crosslinking agent 0.01 to 50 parts by weight of N,N-(1,4-phenylene)bismaleimide, based on 100 parts by weight of the polymer electrolyte precursor.

14. (original) The lithium battery according to claim 10, wherein the non-aqueous organic solvent is at least one selected from the group consisting of propylene carbonate, ethylene carbonate, dimethylcarbonate, methylethylcarbonate, diethylcarbonate and vinylene carbonate, and the lithium salt is at least one selected from the group consisting of $LiClO_4$, $LiBF_4$, $LiPF_6$, $LiCF_3SO_3$, and $LiN(CF_3SO_2)_2$.

15. (original) The lithium battery according to claim 10, wherein a content of electrolyte solution is in the range of 40 to 98 parts by weight based on 100 parts by weight of the polymer electrolyte precursor.

16. (original) The lithium battery according to claim 10, wherein the insulating resin sheet comprises one of a polyethylene resin, a polypropylene resin and a combination thereof, and has a porosity thereof is 40 to 80% and a thickness in the range of 10 to 30 μm.

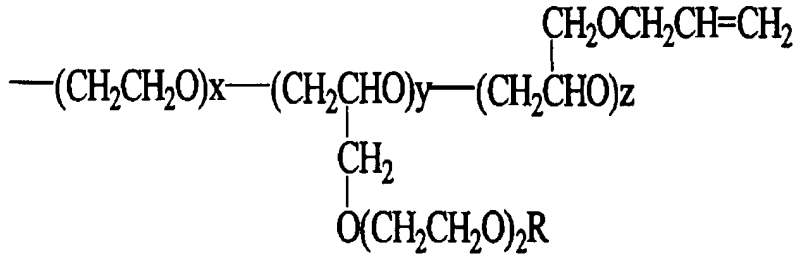
17. (original) A method of manufacturing a lithium battery comprising:

inserting an insulating resin sheet having a network structure between a cathode and an anode to form an electrode assembly;

accommodating the electrode assembly in a battery case;

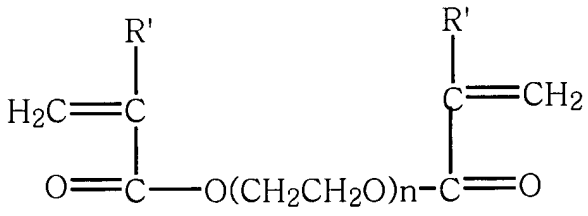
injecting a polymer electrolyte precursor comprising a polymer represented by formula 1, a crosslinking agent represented by formula 2, and an electrolyte solution composed of a lithium salt and a non-aqueous organic solvent, into the battery case having the electrode assembly to impregnate a polymer electrolyte precursor into the insulating resin sheet having the network structures, wherein

formula 1 is as follows



,

formula 2 is as follows



, and

x ranges from 0.1 to 0.6 mol, y ranges from 0.1 to 0.8 mol, z ranges from 0.1 to 0.8 mol, R is an alkyl having 1 to 6 carbon atoms, n is an integer from 3 to 30, and R' is hydrogen or CH_3; and

polymerizing the resultant obtained by said injecting the polymer electrolyte precursor to form a polymeric gel electrolyte.

18. (original) The method according to claim 17, wherein the polymer electrolyte precursor further includes as an additional crosslinking agent 0.01 to 50 parts by weight of N,N-(1,4-phenylene)bismaleimide, based on 100 parts by weight of the polymer electrolyte precursor.

19. (original) The method according to claim 17, wherein said polymerization of the resultant is performed at 60 to 100°C.

20. (original) The method according to claim 7, further comprising impregnating the polymer electrolyte precursor in an insulating resin sheet, and said polymerizing the prepared polymer electrolyte precursor comprises polymerizing the impregnated polymer electrolyte precursor.

21. (original) The method according to claim 7, further comprising spreading the polymer electrolyte precursor on a support film, wherein said polymerizing the prepared polymer electrolyte precursor comprises polymerizing the spread polymer electrolyte precursor, and peeling the resulting polymerized polymer gel electrolyte from the support film.

22. (original) The method according to claim 7, wherein said preparing the polymer electrolyte precursor further comprises adding a polymerization starter and a polymerization catalyst to facilitate a crosslinking reaction between the polymer and the crosslinking agent.

23. (previously presented) A lithium battery comprising:

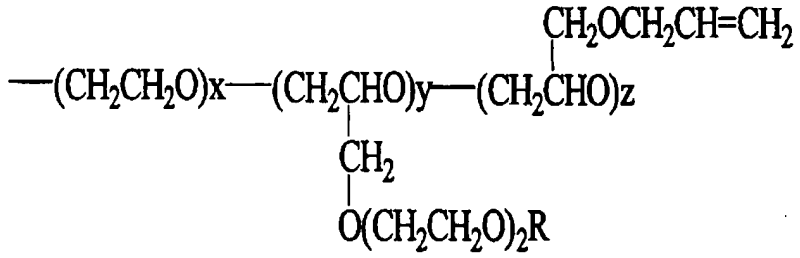
a cathode:

an anode; and

a polymeric gel electrolyte disposed between said cathode and said anode, wherein said polymer gel electrolyte is prepared by polymerizing a polymer electrolyte precursor comprising a polymer represented by formula 1, a crosslinking agent represented by formula 2, and an electrolyte solution composed of a lithium salt and a non-aqueous organic solvent,

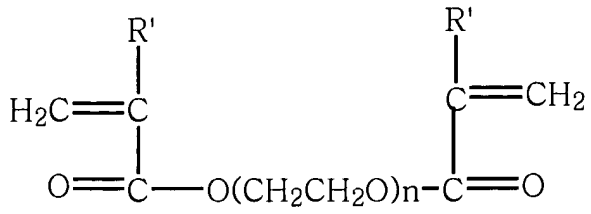
wherein

formula 1 is as follows



,

formula 2 is as follows



, and

x ranges from 0.1 to 0.6 mol, y ranges from 0.1 to 0.8 mol, z ranges from 0.1 to 0.8 mol, R is an alkyl having 1 to 6 carbon atoms, n is an integer from 3 to 30, and R' is hydrogen or CH_3.

24. (original) The lithium battery of claim 23, further comprising an insulating resin sheet having a network structure in which said polymeric gel electrolyte is contained, said insulating resin sheet being disposed between said anode and said cathode.